What does existing data indicate for background turbidity?

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For the Water Quality Standards Advisory Committee
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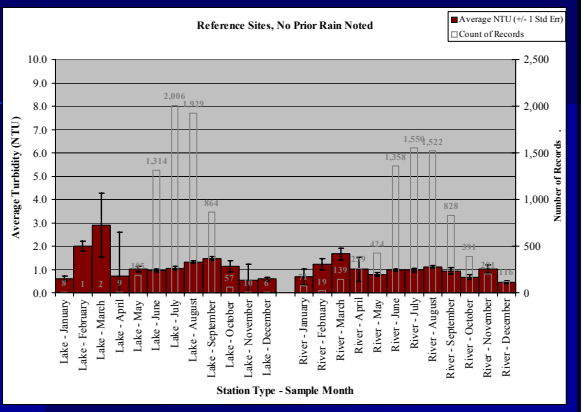
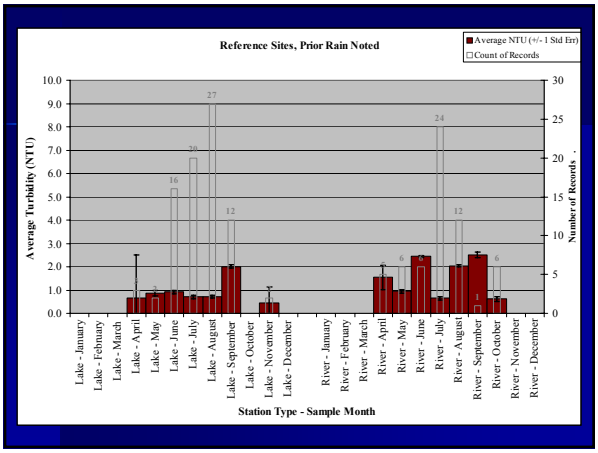
Questions Explored

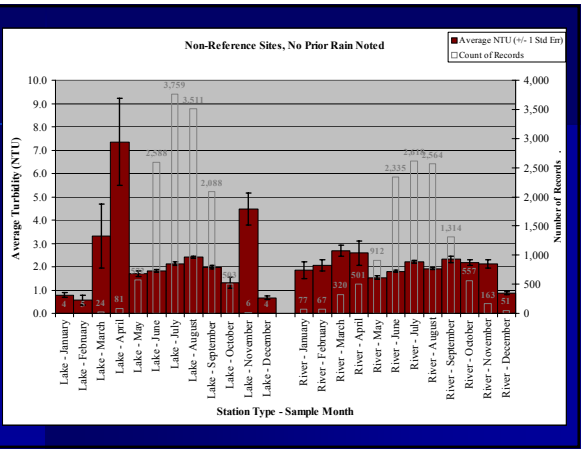
- Do the levels and for rivers appear to look different then lakes?
- Is there a distinct seasonality to the turbidity levels?
- Is there enough metadata to evaluate wet verses dry conditions?
- Using EPAs recommended techniques for threshold determination what looks to be a natural background applying the,
  - 75th percentile of reference sites data
  - 25th percentile of all sites data

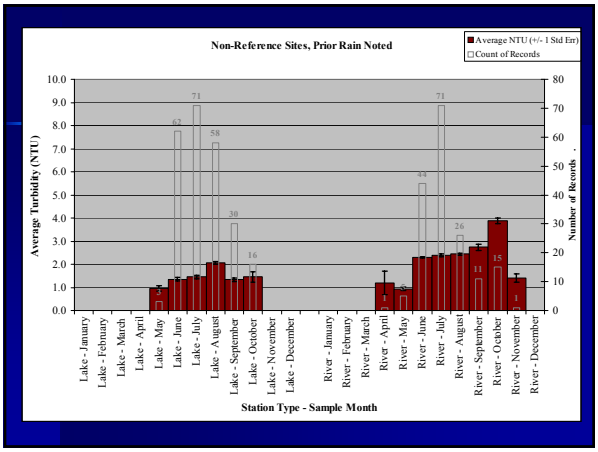
Selection/Bracketing of Turbidity Data

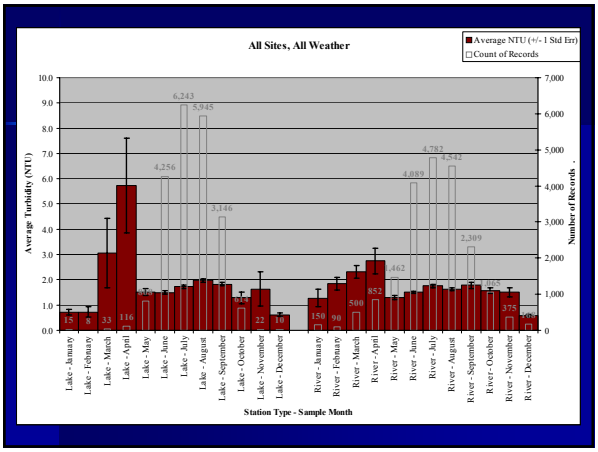
- All 'valid' lake and river turbidity data from the EMD on a waterbody.
- 'Reference' condition was set for sampling stations where the average specific conductance is under 50 umho/cm (min. n=5).
- Separated data out by month of sample and waterbody type (i.e. lake, river)
- Further bracketed data by preceding weather conditions and database comments.











Percentile View of the River Data

- Using EPAs recommended techniques for threshold determination what looks to be a natural background applying the,
  - 75th percentile of reference sites data = 1.04 NTU
  - 25th percentile of all sites data = 0.52 NTU

Conclusions

- Some seasonality tied to biological and hydrologic processes.
- The normal natural condition for turbidity appears to be in the 0.5-1.5 NTU range.
- Applying the Upper 75th percentile of reference river sites = 1.04 NTU
- Lower 25th percentile of all river sites = 0.52 NTU

River Background ~ 0.75 NTU